

Patent claims

1. Device for testing the electromagnetic compatibility and (EMC)-susceptibility, especially for systems having comparatively large dimensions as wagons and/or trains, with impulse generating wave guides (IGW) which are arranged parallel and show electrical conducting single rods (2) switched together over an head electrode (5), which are connectable over a rail-shaped spark gap (4) in direct line with impulse-conducting wave guides (ICW), which, in return, are connected preferable right angled with an terminating characteristic impedance (6) in order to build up a testing chamber for the system to be tested, which, preferably right-angled attached, with one or several return conductors is switched together, at which the magnitude of the terminating characteristic impedance (6) with, at the most a few ohm difference, correspond to the impulse generating wave guide (IGW).
2. Device after claim 1, is characterized that the terminating characteristic impedance (6) which is developed planar or is consisting of several single characteristic impedance's.
3. Device after claim 1 or 2, is characterized that several of the devices are switched together as modules in order to lengthen the testing chamber.
4. Device after claims 1 – 3, is characterized that the rail-shaped spark gap (4) is assigned for a tube with variable pressure.
5. Device after claims 1-4, is characterized that testing of the systems is practicable repeatedly in the range of nano seconds to seconds.
6. Device after claim 1, is characterized that the impulse generating wave guide (IGW) is arranged parallel to the return conductors with essentially the same characteristic wave impedance as the ICW.

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Summary

EMV-testing device for systems having large dimensions

According to the law for electromagnetic compatibility of 1 January 1995 all electrical apparatus must have a certain resistance to interference by electromagnetic fields. Especially in the case of systems having large dimensions, such as trains, it is at present not possible to carry out such a test economically using conventional methods. The invention relates to a test device, which makes such a testing possible and beneficial. According to the invention, a test device consists of a novel arrangement of an impulse-generating wave guide (IGW), which consists of parallel, electrically conductive individual rods, which are connected over by a head electrode and, via a rail-like spark gap which is in a straight line with an impulse--conducting wave-guide (ICW) which is identical in structure but longer, is closed at right angles with a terminating resistor. A return line is connected to said terminating resistor. Several of these IGW, ICW, return lines and termination resistors arranged as described above can be connected in parallel in a modular manner via a shared release mechanism and therefore create a testing space suitable for a large system.

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